

ABSTRACT

A method for conveying over telephone lines digitized voice signals simultaneously with digital data signals by means of a communication system, having a transmitter
5 having a discrete multi-tone unit yielding a plurality of carriers of different frequency, several of which are assigned to the voice signals and others to the data signals. The carriers for transmitting voice are selected on the basis of their signal-to-noise ratio characteristics, which carriers can be reallocated dynamically to data transmission. A first tone ordering circuit assigns data streams to data
10 carriers, and a second tone ordering circuit assigns voice streams to voice carriers. Each carrier is modulated by QAM modulation, the data carriers by a sequence of QAM symbols representing data and the voice carriers by a sequence of QAM symbols representing voice. QAM modulation is carried out by a first constellation encoder that modulates the data carriers and a second constellation encoder that
15 modulates the voice carriers.